



# Telecommunications Master Plan



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# Scope of Work

- 
- Configuration
  - Extra Conduit
  - Identify Honolulu Standard Light Poles
  - Recommendations
- 



# Today's Situation

- Demand Skyrocketing for Broadband Services
  - Year End 2006 = 50 Million Households US with Broadband
    - HDTV, Internet, Dial Tone, Meters, Other
  - Uses
    - Health, Education, Business, Digital Homes, Public Safety, Arts, Sciences, Utilities
- 



# Smart Community Defined

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- “Where local government, business, education, healthcare and the public understand the potential of information technology and form alliances to work together to use and transform the community.”
    - *Intelligent Communities Forum*
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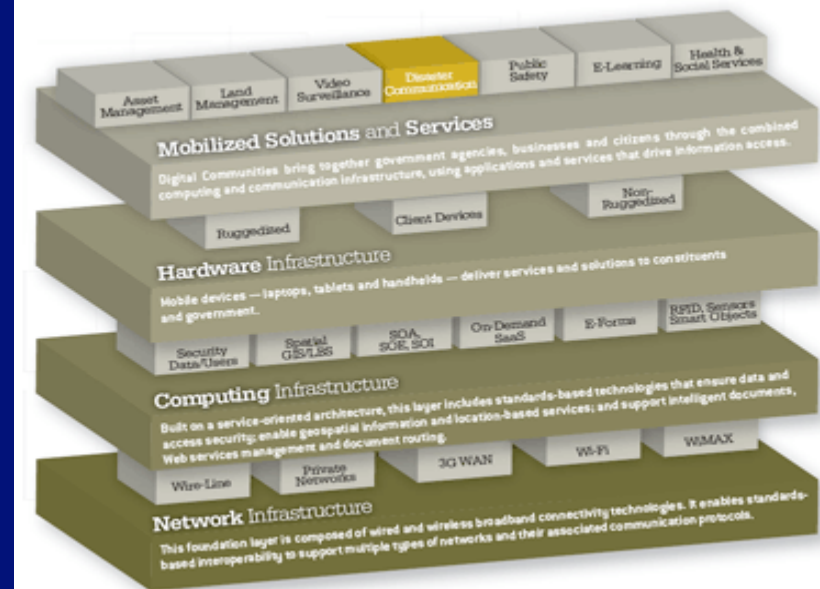


# What Does a SC Look Like

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- Coalition of Business, Education, Government and Citizens
  - Active Involvement Essential
  - Ubiquitous Communications Access
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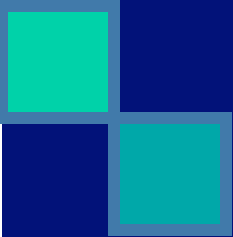

# Foundation 4 Tier Architecture

- Application Services Tier
- Hardware Tier
- Computing Infrastructure
- Network Infrastructure



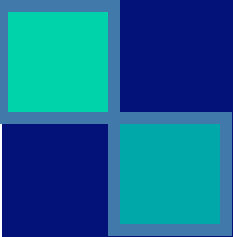



# Service Topologies

- 
- Dial Up
    - Incumbent Phone Company
  - DSL
    - Incumbent Phone Company
  - CATV
    - Incumbent Cable TV Provider
  - Wireless
    - Various Providers – Licensed and Unlicensed
      - WiFi, WiMax, GSM, CDMA, etc.
- 




# How Did We Get Here?

- 
- Household Requirements
    - Dial Tone
    - Internet
    - Security
    - Monitoring
    - Video
  - Public Safety Requirements
    - Traffic Management
    - ACAMS
    - Lighting
    - First Responders
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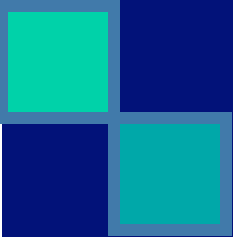



# Original Assumptions No Longer Valid

- Incumbent Telco is Only Dial Tone Provider
  - Incumbent Cable Company is the only Video Provider
  - Wireless is Just for Mobile Telephones
  - Public Safety Systems Come Later
- 



# Available Options

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- Dynamic Conduit Master Plan
  - Light Pole Master Plan
  - Plan for Wireless
  - Plan for Public Safety
  - Easement/License/Lease Agreements Transfer to City
  - Developer/Community Hybrids
  - Ignore – Let the Community Deal with IT
- 

# Sample Conduit Configuration

○	○	○	○
○	○	○	○
○	○	○	○
○	○	○	○

## Legend

1 = Telco

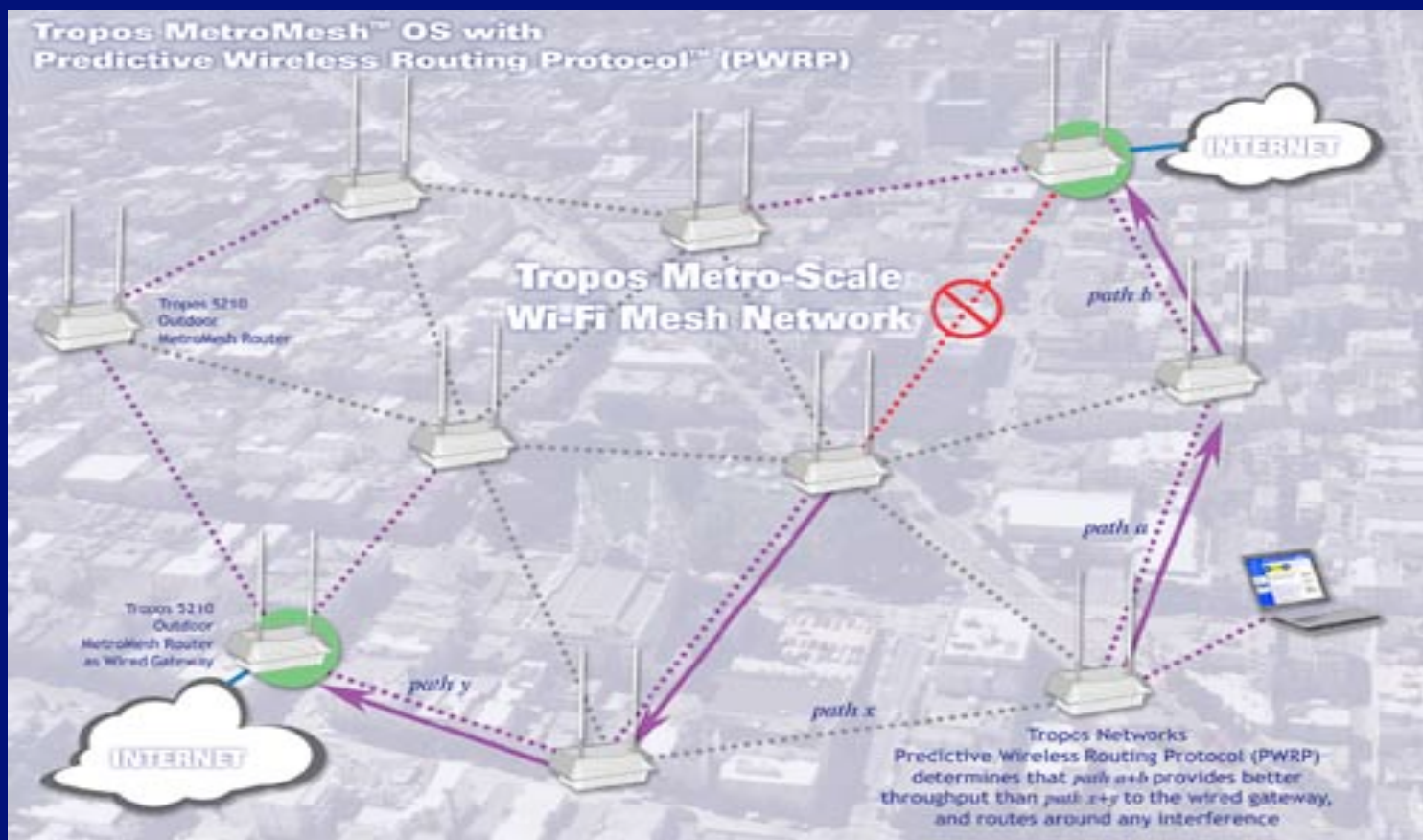
2 = County

3 = Cable

4 = Signaling

5 = Private

# Wireless Example



# Sample Cabinets/Vaults

- What Do You Want in Your Community
  - One Set for Every Provider



# Potential Towers



Colocation: Sharing Towers to Reduce Visual Pollution.



# Wireless Antenna





# Stealth Tree Antenna





# Recommendation

- Install Additional Conduit
  - Work with City on Dedication/Easement Plan
- Master Plan Communications Equipment
- Enter Into an Agreements with a Wireless Internet Carriers for Co-Location Sites
- Work with City on Public Safety Communications Needs
- Identify Specific Mobile/Wireless Tower Sites
- Standard Lease/License/Easement Options with C&C
  - Centralized Application Process
  - Fee Schedules
  - Who pays for what
- Obtain Agreements with Providers/City
- Light Pole Master Plan – PUC/HECO/City
- Planning/Permitting/Zoning/SUP/
- Land Conveyance Issues

# Incredible Opportunity to Create the Development of the Future/ Present

Commend You for Your Vision

